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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/807,069	03/23/2004	Leonard Edward Bogan JR.	A01224A	2646

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EXAMINER

PUTTLITZ, KARL J

ART UNIT PAPER NUMBER

1621

DATE MAILED: 03/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/807,069

Applicant(s)

BOGAN ET AL.

Examiner

Karl J. Puttlitz

Art Unit

1621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 December 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,8 and 9 is/are pending in the application.
- 4a) Of the above claim(s) 1 is/are withdrawn from consideration.
- 5) ☐ Claim(s) 9 is/are allowed.
- 6) ☐ Claim(s) 9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 3/23/2004.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

By the amendments set forth in the Preliminary Amendment and the instant amendments, Applicant has satisfied the requirements for arrangement of applications and cross-referencing related applications.

The examiner has considered the Information Disclosure Statement filed 3/23/2004. The initialed Form PTO 1449 was inadvertently not mailed. The initialed copies are attached.

The rejection under section 112, second paragraph is withdrawn in view of the definition in the specification of "seed" as a mixed metal oxide which is compositionally the same as the mixed metal oxide of the catalyst of the present invention (see paragraphs [0036] to [0038]).

The rejection of under section 103 is maintained and repeated below.  
Applicant's remarks in connection with this section are also addressed.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,380,933 to Ushikubo et al. (US 933).

The claims are drawn to a process for producing an unsaturated carboxylic acid which comprises subjecting an alkane, or a mixture of an alkane and an alkene, to a vapor phase catalytic oxidation reaction in the presence of an orthorhombic phase mixed metal oxide catalyst, produced by a particular process comprising admixing compounds of elements A, V, N and X and at least one solvent to form a solution [see definitions in claim 8].

US 933 teaches a method for producing an unsaturated carboxylic acid, which comprises subjecting an alkane to a vapor phase catalytic oxidation reaction in the presence of a catalyst containing a mixed metal oxide comprising, as essential components, Mo, V, Te, O and X wherein X is at least one element selected from the group consisting of niobium, tantalum, tungsten, titanium, aluminum, zirconium, chromium, manganese, iron, ruthenium, cobalt, rhodium, nickel, palladium, platinum, antimony, bismuth, boron, indium and cerium,

US 933 teaches, in example 1, that ammonium metavanadate was dissolved, and 23.6 g of telluric acid and 78.9 g of ammonium paramolybdate were sequentially added thereto to obtain a uniform aqueous solution. Further, 117.5 g of an aqueous solution of ammonium niobium oxalate having niobium concentration of 0.456 mol/kg, was mixed thereto to obtain a slurry. This slurry was heat-treated to remove water and obtain a solid. This solid was molded by a tableting machine into a tablet, which was then pulverized, sieved to from 16 to 28 mesh and calcined in a nitrogen stream at 600 C. for two hours.

US 933 fails to explicitly teach a step of admixing a seeding effective amount of an orthorhombic phase mixed metal oxide seed substantially free of hexagonal phase mixed metal oxide with said solution to form a seeded solution.

However, the reference does teach addition of a solution of ammonium niobium oxalate to the mixture. Therefore, based on the above, US 933 teaches the elements of the claimed invention with sufficient guidance, particularity, and with a reasonable expectation of success, that the invention would be *prima facie* obvious to one of ordinary skill (the prior art reference teaches or suggests all the claim limitations with a reasonable expectation of success. See M.P.E.P. § 2143).

### ***Response to Arguments***

Applicant argues that the addition of ammonium niobium oxalate to a mixture of other precursor compounds, as taught in both Ushikubo et al. references, is merely a required step for the formation of a precursor solution containing all of the desired elemental constituents (i.e., Mo-V-Te-Nb) for the catalyst formed therefrom after calcining. This step is in no way equivalent to addition of an orthorhombic phase mixed metal oxide seed to a complete precursor solution which already contains all of the elemental constituents of the final intended mixed metal oxide catalyst. Additionally, it is respectfully submitted that a solution of ammonium niobium oxalate is in no way similar or equivalent to an orthorhombic phase mixed metal oxide seed as disclosed and discussed in the present specification.

However, given the definition of seed in the specification, i.e., a mixed metal oxide which is compositionally the same as the mixed metal oxide of the catalyst of the present invention (see paragraphs [0036] to [0038]), the disclosure in Ushikobu of addition of a solution of ammonium niobium oxalate to the mixture meets this requirement. See M.P.E.P. § 2111 ("During patent examination, the pending claims must be "given \*>their< broadest reasonable interpretation consistent with the specification." >*In re Hyatt*, 211 F.3d 1367, 1372, 54 USPQ2d 1664, 1667 (Fed. Cir. 2000).<").

#### ***Election/Restrictions***

Applicant argues that claim 1 should be rejoined since claims having a linking inventive concept, such as a claim directed to a product and a claim directed a use of said product, are entitled to examination in the same patent application and, therefore, where one such claim is found allowable, Applicants are entitled to rejoinder and examination on the merits of the withdrawn claims also relating to the linking inventive concept. The present application includes elected Claims 8 and 9, which are drawn to a process using the inventive product (i.e., an orthorhombic phase mixed metal oxide catalyst), as well as withdrawn product Claim 1, which is directed to the inventive product (i.e., an orthorhombic phase mixed metal oxide catalyst). It is submitted that if either of Claims 8 and 9 are found allowable, then Applicants are entitled to rejoinder and examination of withdrawn Claim 1.

However, M.P.E.P. § 821.04 states that where product and process claims drawn to independent and distinct inventions are presented in the same application, applicant may be called upon to elect claims to either the product or process. The claims to the nonelected invention will be withdrawn from further consideration. However, if applicant elects claims directed to the product, and a product claim is subsequently found allowable, withdrawn process claims which depend from or otherwise include all the limitations of the allowable product claim will be rejoined.

Here applicant has elected process claims 8 and 9, and therefore, rejoinder of product claim 1 is not required. Therefore, claim 1 remains withdrawn from consideration.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.


**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karl J. Puttlitz whose telephone number is (571) 272-0645. The examiner can normally be reached on Monday to Friday from 9 a.m. to 5 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann Richter, can be reached at telephone number (571) 272-0646. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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